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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/667,699	09/22/2003	Narayanan Alwar	N0154 US	9257

37583 7590 08/29/2005

NAVIGATION TECHNOLOGIES
222 MERCHANDISE MART
SUITE 900, PATENT DEPT.
CHICAGO, IL 60654

EXAMINER	
MARC, MCDIEUNEL	
ART UNIT	**PAPER NUMBER**
3661	

DATE MAILED: 08/29/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/667,699	ALWAR ET AL.	
	Examiner	Art Unit	
	McDieunel Marc	3661	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *19 May 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-19* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-6 and 10-19* is/are rejected.

7)☒ Claim(s) *7-9* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *9/22/2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. Claims 1-19 are presented for examination.

Specification

2. The abstract of the disclosure is objected to because of the word "disclose". Correction is required. See MPEP § 608.01(b).

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

4. Claims 1-6 and 11-19 rejected under 35 U.S.C. 102(e) as being anticipated by **Casino** (U.S. Pat. No. **6,847,887 B1**).

As per claim 1, **Casino** teaches a geographic database including a method of collecting data for a geographic database that represents roads in a geographic region (see abstract), the method comprising:

with a vehicle that travels along the roads (see col. 1, lines 46-59), using a barometer associated with the vehicle to collect data indicating altitudes as the vehicle travels along the roads (see abstract and col. 1 line 60 – to – col. 2, lines -7);

analyzing said altitude data (see col. 1 line 60 – to – col. 2, lines –7, particularly altitude);

based on said analyzing, deriving (road grade)[1] data along said roads (see col. 13, line 65 – to – col. 14, line - 9); and

storing data in said geographic database that represent road grade (see abstract and col. 14, line 10).

As per claim 2, **Casino** teaches a geographic database, wherein said road grade data indicates a location of a road grade change point (see col. 7, lines 13-20).

As claim 3, **Casino** teaches a geographic database, wherein said road grade data indicates a direction of the road grade (see col. 7, lines 21-29).

As per claim 4, **Casino** teaches a geographic database, wherein said road grade data indicates a section of constant road grade along the road (see col. 2, lines 44-57, wherein segment being considered as a constant section of the road).

As per claim 5, **Casino** teaches a geographic database, wherein said road grade data indicates a road grade value (see col. 7, lines 21-29).

As per claim 6, **Casino** teaches a geographic database, further comprising collecting data indicating positions of the vehicle as the vehicle travels along the roads (see col. 13, line 65 – to – col. 14, line – 9 as noted above).

As per claim 11, **Casino** teaches a geographic database, wherein the vehicle is a probe data collection vehicle that collects data while traveling in the geographic region for purposes other than data collection (see col. 4, lines 43-60).

As per claims 12 and 17, **Casino** teaches a system and an associating method having a geographic database, including a method of obtaining data for a geographic database using a vehicle moving on roads in a geographic region (see abstract) comprising:

collecting data indicating atmospheric pressure (see col. 1, line 60 – to col. 2, line 7, inherently data is collected by measuring road grade) and position of the vehicle as the vehicle travels on roads in the geographic region (see col. 7, lines 13-20);

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[1] Road grade is defined to be the ratio of the total rise of a hill divided by the length of the road. If the hill

analyzing the atmospheric pressure data (see col. 8, lines 57-63, wherein identify being taken as analyzing) and the position data to identify a section of constant road grade along the road traveled by the vehicle (see col. 2, lines 44-57, wherein segment being considered as a constant section of the road); and

updating the geographic database to indicate the section of constant road grade (see col. 2, lines 12-19 and col. 13, 24-25); with respect to claim 17, a processing unit (see fig. 4, element 68).

As per claim 13, **Casino** teaches a geographic database, wherein the atmospheric pressure data is obtained from a barometer associated with the vehicle (see abstract and col. 1 line 60 – to – col. 2, lines –7, as noted above).

As per claim 14, **Casino** teaches a geographic database, that further comprising identifying a direction of the road grade (see col. 7, lines 21-29).

As per claim 15, **Casino** teaches a geographic database, that further comprising identifying a road grade change point (see col. 7, lines 13-20).

As per claim 16, **Casino** teaches a geographic database, that further comprising identifying a road grade value for the section of constant road grade (see col. 2, lines 44-57, wherein segment being considered as a constant section of the road).

As per claim 18, **Casino** teaches a geographic database, wherein said data processing unit is located in a data collection facility (see fig. 4, elements 68, 54 and fig.

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is viewed as a triangle, the grade is the sine of the angle at the bottom of the hill.

7, elements 120, 104).

As per claim 19, **Casino** teaches a geographic database, wherein said data collection unit receives data from a navigation system associated with the vehicle (see fig. 7, elements 104 and 114).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

7. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Casino in view of **Chojnacki et al.** (U.S. Pat. No. **6,366,851 B1**).

As per claim 10, **Casino** teaches essential features of the invention substantially as claimed with the exception of the limitation below taught by Chojnacki et al.

Chojnacki et al. teaches a geographic database, that further comprising filtering the altitude data to remove outlier data (see col. 11, lines 41-54 et seq., wherein fuse data being considered as "filtering the altitude data").

It would have been obvious to a person of ordinary skill in the art at the time of ht invention to modify the geographic database of Casino with the geographic database of Chojnacki et al., because this modification would have enhanced Casino's database type so that the step of outlier data could be introduced, thereby improving the accuracy and the efficiency of the method of obtaining road grade data.

Allowable Subject Matter

8. Claims 7-9 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

9. The following is a statement of reasons for the indication of allowable subject matter:

While the prior art of record U.S. Pat. No. 6,366,851 issued to Chojnacki et al., for example teaches a "process described in connection with FIGS. 16A-16E relates to the planar component of the level of accuracy. With respect to the vertical component, a separate test is performed as each fused data point is evaluated. As each fused data point is evaluated, a change of altitude is calculated relative to the altitude of the previous fused data point that had been selected as a proto-shape point. If the change of altitude is greater than the specified vertical component of the level of accuracy, the immediately previous fused data point is selected as a proto-shape point so that the change in altitude between two proto-shape points does not exceed the vertical component of the specified level of accuracy." However, the prior art of record fail to teach or fairly suggest sufficient language for identifying a change in altitude value between consecutively collected altitude data exceeding a threshold amount in combination with the other elements of the claimed invention.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to McDieunel Marc whose telephone number is (571) 272-6964. The examiner can normally be reached on 6:30-5:00 Mon-Thu.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas Black can be reached on (571) 272-6956. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

McDieunel Marc

Monday, July 04, 2005

MM/